What is claimed is:

1. An apparatus for processing image signals, comprising:

an image signal acquiring section to acquire said image signals representing an image recorded on a recording medium;

a recognizing section to recognize a presence or absence of a defect pixel possibly included in said image signals; and

a compensating section to compensate for said defect pixel recognized by said recognizing section;

wherein said compensating section compensates for said defect pixel so that first order differential values of image signals of said defect pixel and those of non-defect pixels adjacent to said defect pixel continue to each other.

2. The apparatus of claim 1,

wherein said compensating section initially applies a multi-resolution conversion processing to said image signals so as to decompose them into high frequency band components and a low frequency band component, and then, compensates for signal intensities of said high frequency band components and a signal intensity of said low frequency band component, respectively, and finally, applies a multi-resolution

inverse-conversion processing to compensated high frequency band components and a compensated low frequency band component so as to compensate for said defect pixel included in said image signals.

3. The apparatus of claim 2,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

4. The apparatus of claim 1,

wherein said image signal acquiring section acquires said image signals by scanning said image recorded on said recording medium with an image reading light.

5. The apparatus of claim 4, further comprising:

a defect-detecting signal acquiring section to acquire defect detecting signals by scanning said image recorded on said recording medium with a defect detecting light;

wherein said recognizing section applies a multi-resolution conversion processing to said defect detecting signals acquired by said defect-detecting signal acquiring section, and then, recognizes said presence or absence of said defect pixel, based on converted signals.

6. The apparatus of claim 5,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

7. A method for processing image signals, comprising the steps of:

acquiring said image signals representing an image recorded on a recording medium;

recognizing a presence or absence of a defect pixel possibly included in said image signals;

compensating for said defect pixel recognized by said recognizing section;

wherein, in said compensating step, said defect pixel is compensated for, so that first order differential values of image signals of said defect pixel and those of non-defect pixels adjacent to said defect pixel continue to each other.

8. The method of claim 7,

wherein, in said compensating step, a multi-resolution conversion processing is initially applied to said image signals so as to decompose them into high frequency band components and a low frequency band component, and then,

signal intensities of said high frequency band components and a signal intensity of said low frequency band component are respectively compensated for, and finally, a multi-resolution inverse-conversion processing is applied to compensated high frequency band components and a compensated low frequency band component so as to compensate for said defect pixel included in said image signals.

9. The method of claim 8,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

10. The method of claim 7,

wherein, in said acquiring step, said image signals are acquired by scanning said image recorded on said recording medium with an image reading light.

11. The method of claim 10, further comprising the step of:

acquiring defect detecting signals by scanning said image recorded on said recording medium with a defect detecting light;

wherein, in said recognizing step, a multi-resolution conversion processing is applied to said defect detecting

signals acquired by said defect-detecting signal acquiring section, and then, said presence or absence of said defect pixel is recognized, based on converted signals.

12. The method of claim 11,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

13. A computer program for executing operations for processing image signals, comprising the functional steps of:

acquiring said image signals representing an image recorded on a recording medium;

recognizing a presence or absence of a defect pixel possibly included in said image signals;

compensating for said defect pixel recognized by said recognizing section;

wherein, in said compensating step, said defect pixel is compensated for, so that first order differential values of image signals of said defect pixel and those of non-defect pixels adjacent to said defect pixel continue to each other.

14. The computer program of claim 13,

wherein, in said compensating step, a multi-resolution conversion processing is initially applied to said image signals so as to decompose them into high frequency band components and a low frequency band component, and then, signal intensities of said high frequency band components and a signal intensity of said low frequency band component are respectively compensated for, and finally, a multi-resolution inverse-conversion processing is applied to compensated high frequency band components and a compensated low frequency band component so as to compensate for said defect pixel included in said image signals.

15. The computer program of claim 14,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

16. The computer program of claim 13,

wherein, in said acquiring step, said image signals are acquired by scanning said image recorded on said recording medium with an image reading light.

17. The computer program of claim 16, further comprising the functional step of:

acquiring defect detecting signals by scanning said image recorded on said recording medium with a defect detecting light;

wherein, in said recognizing step, a multi-resolution conversion processing is applied to said defect detecting signals acquired by said defect-detecting signal acquiring section, and then, said presence or absence of said defect pixel is recognized, based on converted signals.

18. The computer program of claim 17,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

19. An apparatus for recording an output image onto an outputting medium, comprising:

an image signal acquiring section to acquire image signals representing an image recorded on a recording medium;

a recognizing section to recognize a presence or absence of a defect pixel possibly included in said image signals; and

a compensating section to compensate for said defect pixel recognized by said recognizing section;

an image recording section to record said output image onto said outputting medium, based on compensated image signals outputted from said compensating section;

wherein said compensating section compensates for said defect pixel so that first order differential values of image signals of said defect pixel and those of non-defect pixels adjacent to said defect pixel continue to each other.

20. The apparatus of claim 19,

wherein said compensating section initially applies a multi-resolution conversion processing to said image signals so as to decompose them into high frequency band components and a low frequency band component, and then, compensates for signal intensities of said high frequency band components and a signal intensity of said low frequency band component, respectively, and finally, applies a multi-resolution inverse-conversion processing to compensated high frequency band components and a compensated low frequency band component so as to compensate for said defect pixel included in said image signals.

21. The apparatus of claim 20,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.

22. The apparatus of claim 19,

wherein said image signal acquiring section acquires said image signals by scanning said image recorded on said recording medium with an image reading light.

23. The apparatus of claim 22, further comprising:

a defect-detecting signal acquiring section to acquire defect detecting signals by scanning said image recorded on said recording medium with a defect detecting light;

wherein said recognizing section applies a multi-resolution conversion processing to said defect detecting signals acquired by said defect-detecting signal acquiring section, and then, recognizes said presence or absence of said defect pixel, based on converted signals.

24. The apparatus of claim 23,

wherein said multi-resolution conversion processing is a Dyadic Wavelet transform.